

**COST EFFECTIVE METHODS FOR THE CREATION OF A LAND REGISTRATION SYSTEM - LEGAL CADASTRE FOR GEORGIA**

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It is agreed amongst foreign donors and most Georgian officials that the rapid implementation of a land registration system and legal cadastre for Georgia is paramount for securing private property rights which will lead to the creation of a viable land market. The creation of a cost effective and secure legal cadastre and registration system for Georgia will subsequently become one of the key elements to drive economic development.

Given that Georgia is in the early stages of free market stabilization, economic development, and land privatization, it is important to apply cost-effective methods for the implementation of a land registration system and cadastre across the country. Methods and strategies that utilize a low-tech., low-cost, simplified, incremental and rapid approach to system implementation are therefore considered to be in Georgia's best interest. Following these principles will support the rapid creation of the land market, allow institutions to more readily adapt to change, and allow the private sector time to mature and better position itself for the provision of land registration and cadastral services to the public and the state. Perhaps more importantly, with this approach, the financial burden on its citizens will be minimized and reforms will be much more effective and manageable for Georgia.

Two primary success factors in cadastre and registration system implementation are improved management and administration. At the present time the State Department of Land Management (SDLM) are institutionally weak and the level of support and transparency in the area of cadastre and land registration reform is questionable. For this reason large expenditures for system implementation cannot be justified. Implementing a more simplified low-tech system at this time is considered most appropriate. This is not to say that the way information is collected and organized should not give full consideration to future modernization of systems since this would be short-sighted and irresponsible.

Implementation of a multipurpose cadastre, should be the ultimate goal of Georgia however it is essential that initially a simple legal and fiscal cadastre and land registration system is operational as a first step towards implementing fully computerized multipurpose systems. There are a number of considerations that are normally applied to multipurpose cadastre implementation and these same considerations will have to be addressed with the implementation of a land registration system (legal / fiscal cadastre) for Georgia. Again cost effectiveness and land market creation must remain in the forefront as systems, methods and timing are assessed and chosen.

This discussion paper presents concepts, strategies and methodologies for the implementation of a cost-effective cadastre and land registration system for Georgia. The ideas proposed are based on experience gained with legal cadastre system implementation in other developing countries and through participation in the initial registration of 300,000 agricultural parcels across 20 Rayons in Georgia in 1999.

Typically the three primary requirements areas for successful cadastre-land registration system implementation can be summarized as follows:

### **Technical Requirements**

- Standards for information content of systems developed and for specific products and include data accuracy, quality control, data entry, data manipulation, data compatibility, etc.
- Spatial reference framework for the integration of maps, surveys and parcel fabric
- Base mapping to meet the needs of the system and users
- Standards for the compilation and maintenance parcel plans and maps
- Use of appropriate technology to meet present and future needs within cost limitations

### **Organizational Requirements**

- Developing standards for data organization, including access, storage, retrieval, parcel definition etc.
- Development of standards and procedures for data flow which includes the collection of information from various sources, mechanisms for the exchange of information, data structures, etc.
- Incremental system design and development which allows for institutional development, adapting to user requirements, new technologies, etc.
- Personnel arrangements which will ensure the necessary people are in place and that the appropriate training is provided
- Administrative organization and reorganization to accommodate new structures, new processes, changing user requirements and system demands
- Development of communication, cooperation and support to best address requirements, problems, and changes

### **Institutional Requirements**

- Assessment of user requirements and system constraints in light of the institutional, administrative and technical issues that exist and considering the ongoing cost and change factors
- Development of financial arrangements including cost justification, level of scope, scheduling, source of financial support, etc.
- Legal reforms necessary for the practical day to day operation of the system and to maintain its efficiency
- Professional support by groups that are involved in the collection and use of the information to ensure their input and support for standards, procedures, and role clarification (eg. legal and surveying profession)
- Political support in the areas of administrative reorganization, legal reform, financing, policies, education, public education, research, etc.
- Land information policy setting levels of cooperation, coordination, setting priorities, and continued institutional support

With foreign donor assistance Georgia has set down a functional legal framework for the implementation of a fundamentally sound land registration system (legal cadastre). Further reforms will be implemented as operational requirements demand. Although the political will and sufficient parliamentary support exists to successfully implement the system the management structures, institutional capability, and level of transparency are cause for concern at the present time. It is for this reason that careful consideration must be given to the type of system to be implemented initially as well as to the cost justification for initial expenditures for system implementation.

The key cost-benefit and success factors for Georgia in the early years of cadastre and land registration system implementation which best support land market creation can be summarized as follows:

1. Apply low cost methods for data collection necessary to establish a functioning system as soon as possible.
2. Apply only the basic semi-automated techniques and equipment to ensure efficient data collection but at a minimal cost.
3. Involve as many local nationals in all processes of implementation as possible to promote expertise and knowledge amongst a large group of specialist
4. Utilize existing equipment to the largest extent to minimize capital investment costs and learning curves for data collection
5. Make use of low cost or existing mapping for geographical referencing of parcels
6. Set up an efficient paper based system supported by low-cost computer technology for data collection, document production and system maintenance.
7. Simplify registration office processes for maximum efficiency and minimal cost and ensure that public user services are given top priority.
8. Ensure that data collected and systems established are such that upgrading time and cost will be minimized
9. Promote institutional reform driven by system and user requirements and minimize complicated re-structuring in the early years
10. Ensure the establishment and use of simple, clear, and complete standards, regulations and policies and provide for efficient and transparent mechanisms to modify them as necessary to support system operation and maintenance.

Field data collection and document preparation are understood to be the major costs of implementation of land registration systems. For this reason it is essential to employ cost-effective methods for such collection. However as mentioned the techniques and tools employed must not ignore the need to upgrade and modernize the system in the future so a value-for-cost assessment must be applied before choices are made.

Considerations for data collection procedures and techniques include; methods to gather and use existing ownership information, parcel maps and topographic maps; field procedures and equipment to be employed in surveying parcels; hardware and software to be used for compilation of registration documents including maps and plans; means of acquisition of new basic parcel mapping and selection of equipment for basic registration office operation.

## **1. Existing Information**

The existing information used for cadastre and land registration compilation resides with SDLM in the form of Receive Delivery Acts (RDA), tax and land distribution lists, allocation sketches and land distribution maps, and Land Arranger journals.

It is essential to have easy access to this information otherwise the identification of owners and the extent of their property rights will be very difficult and consequently the ability to produce the proper registration documents effectively will be severely hampered.

SDLM and Land Arrangers need guidance on the format and organization of the information required for registration and how that information must be verified and presented. The following procedure is suggested for Land Arrangers and SDLM;

- Compile land arrangement sketches by block and where possible verify with the information shown on RDA
- Verify the true physical parcel location and size with owners and with a brief field check if necessary (parcel dimensions to the nearest meter)
- Provide documentation consisting of a sketch map of each block with approximate dimensions of parcels and tax list number or RDA number shown on parcel
- Attached to the sketch map should be tax list or RDA number for the parcel, first last and middle name of the owner(household), owner ID number if available, and the owner's address.

This inform must be acquired and verified before cadastral field measurements begin or registration documents are compiled otherwise many delays will result and an increased number of errors will be introduced into registration records.

Existing large-scale topographic maps, although not highly accurate, can serve as an interim reference base from which to geographically position blocks of allotted parcels to be registered. Scaling from survey-referenced identifiable features on the ground to those shown on the topographic maps is a fundamental means to establish a common geographical reference system (State coordinates) on which to build the graphic cadastre.

## 2. Semi-Automated Techniques

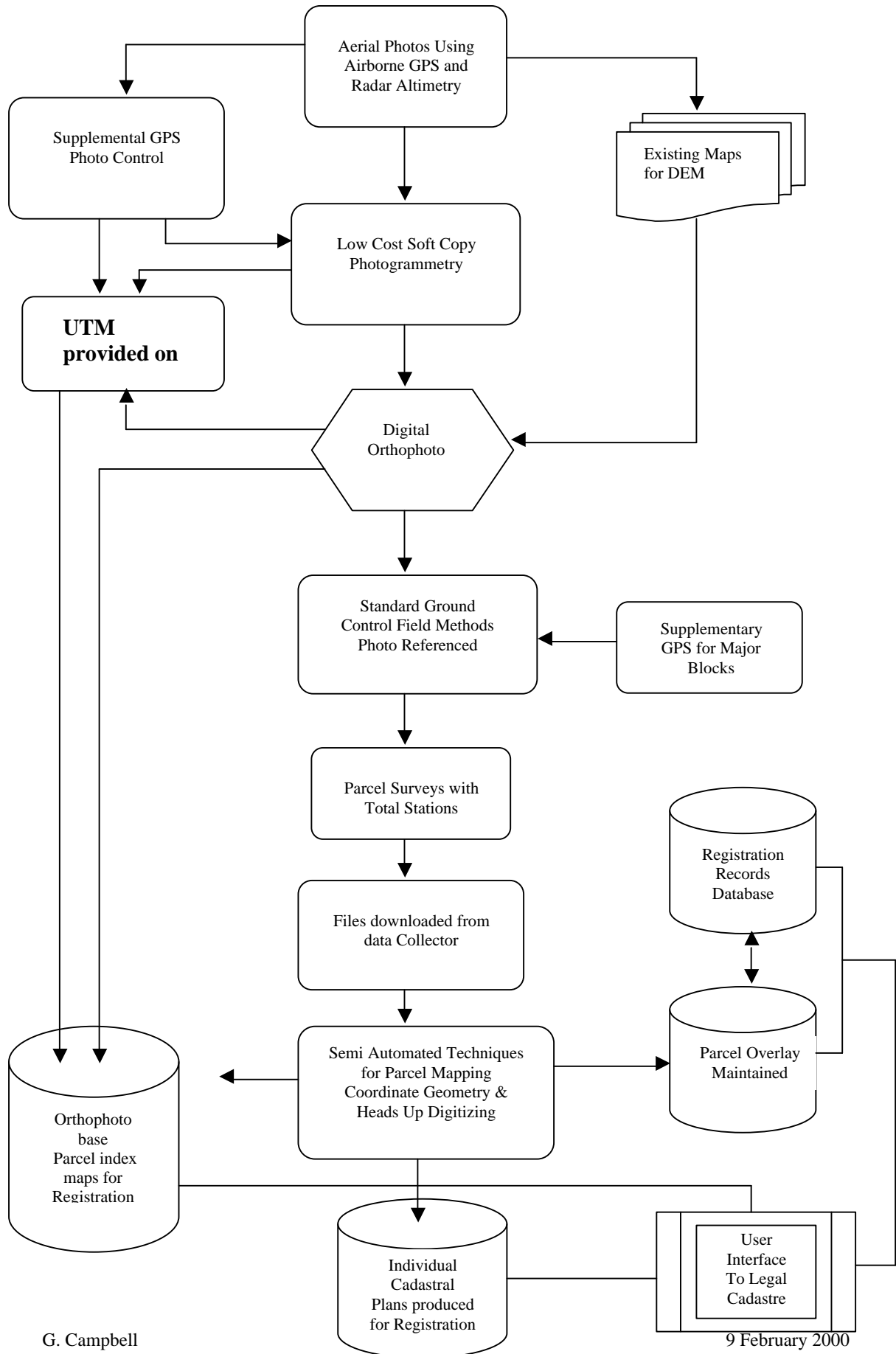
Beginning with field survey procedures, the methods and tools used must consider speed and accuracy of measuring boundary information, the nature of the terrain, and the parcel size. Since labor costs are low in Georgia and conventional equipment is readily available these two factors must govern data collection strategies. Where low-cost electronic measuring equipment is available it will definitely increase production and accuracy. In severe terrain electronic equipment can also be cost-justified both for production time improvements and to minimize errors in measurement.

For processing of field survey measurements simple semi-automated techniques should be applied. This will involve the use of basic coordinate geometry techniques to produce the parcel map graphic. If large scale orthophotography is available parcel digitizing from orthophotomaps can be performed or heads-up digitizing of a digital ortho image on a low-cost PC workstation can supplement field measurements to create parcel maps. From these parcel graphic files the production of individual parcel plans and registration certificate sketches can be produced. This graphic data will also be used to produce the cadastral index maps for registration that may be in the form of a line map or photomap or combination of the two. It is these maps and supporting digital files that form the building blocks of the graphic cadastre which can be established and assembled incrementally. Geographical referencing can be based on these maps and later transformed to a more advanced UTM reference system when time and cost can be justified.

Rapid capture and entry techniques must also be applied to enter parcel and ownership information for registration documents. A simple low-cost software application can be used for this purpose. Data collected must be preserved in a standard database table structure and registration documents must be easily generated from the database with simple user-friendly software.

The following model demonstrates a more advanced approach to data collection and cadastral map preparation but with proper Donor Agency coordination and applying low-cost technologies and techniques these methods can be applied in a cost-effective way in Georgia. Of course the largest investment is in the production of the orthophoto mapping and the necessary mapping control using GPS technologies. These costs can be justified if the end products are produced under good management, with Georgian specialists and applying cost-effective technologies. It is estimated that an acceptable photomap base can be created for the active land use areas of Georgia for less than \$3.0 Million. The majority of these costs could be obtained through Donor agency grants.

# Low Cost Cadastre - Activities



### **3. Local Personnel and Specialists**

The expertise exists in Georgia to implement a fundamental legal-fiscal cadastre and registration system. Registration procedures with some minor modifications are now functional and with a short learning curve both public and private individuals will be able to work within the system with little difficulty in the early years of operation. Some training will be necessary, especially with semi-automated processes and data management, but this will be minimal.

There is also sufficient expertise and specialist in Georgia presently to undertake the parcel surveys necessary for the definition of individual interests and for the compilation of map and plan products required for registration purposes and for the building of a graphic cadastre. Some training will be necessary with the use of semi-automated techniques for field data processing and parcel mapping but with the use of basic technologies this training can be undertaken in a few weeks.

The present labor costs in Georgia are low and secondly it is important to keep procedures and systems simple to allow as many people as possible to participate in system implementation. The involvement of as many local staff as possible has four primary benefits;

1. Cadastral and land registration skills will be developed in a wider group of specialists
2. Economic benefits will reach a larger number of people through employment creation
3. Wider understanding and knowledge of land cadastre and land registration will be achieved by involving more individuals locally
4. Improved public information dissemination will be achieved through the individuals involved in project implementation.

Once specifications for the field and registration document preparation have been prepared then specialists and operators should be provided with just-in-time on-the-job training. As systems, technologies and procedures are modified the appropriate training should be provided in the same manner.

Georgian specialists conducting the works for field surveys and registration documents should be provided with support to establish their own small enterprises to provide ongoing cadastral and registration services in the future.

### **4. Use of Existing Low-Tech Equipment**

Sufficient quantities of conventional survey equipment exist in Georgia to gather the field information required for preparation of cadastral plans and maps for parcels to be registered. This equipment consists of typical theodolites, stadia rods, tapes, and in some cases electronic measuring equipment. The equipment is considered satisfactory for gathering the necessary field data required. A most important consideration is how the information gathered is recorded and documented in field journals. It is these field journals that will be referred to when boundary questions and disputes are to be settled with landowners in the pursuing years.

The merits of processing and collecting data using semi-automated digital techniques using low-cost computer equipment can be easily cost-justified. A simple PC work station can not only speed up data processing but allow the preserving of digital data in a form that can be more easily accessed, maintained and eventually migrated to a more advanced system. The cost of hardware and software can be minimized in order to satisfy cost-benefit considerations.

## **5. Cost Effective Mapping and Surveying**

The importance of graphic description and geographical location of parcels to be registered is well recognized as an important component of any land registration cadastre system. The manner and methods employed to gather and produce this information can vary considerably. It is desirable eventually to have a more precise seamless digital graphic cadastre that is fully integrated with the land registration system. Also the definition of parcels based on a modern datum and referencing system are desirable but, as always, the cost-benefits of accuracy and detail of physical location must be carefully assessed. For example, geographical referencing can range from a simple index map of a Sakrebulo showing survey blocks to a seamless digital cadastre based on an international UTM reference system. The more basic alternative is considered acceptable for the early implementation of a land registration – legal cadastre for Georgia.

Experience has shown that basic cadastral plans and cadastral index maps can be compiled using fundamental techniques and equipment that will satisfy the basic requirements for registration and a functioning land market.

It is preferable to visit each parcel in the field to verify the physical boundaries of parcels. With the proper support documentation mentioned in 1 above and the use of streamlined field methods, the measurements of parcels can be undertaken rapidly and quickly and within acceptable accuracy for initial registration. Relative accuracy of 0.1 meters for urban parcels and 0.3 to 0.5 meters for rural parcels is considered sufficient using conventional field methods. These relative accuracy levels can be achieved with the basic equipment outlined in 4 above.

Most measurements in rural areas can be undertaken using tacheometric methods (theodolite and stadia measurements) using polar measurement techniques to position parcel corners in a local coordinate system. Direction can be determined using accurate compass measurement or, when time and experience is available, solar azimuth methods.

For the establishment of the true geographical position of surveys the use of existing large scale topographic mapping is recommended. In Georgia three scales of topographic maps are readily available (1:5000, 1:10000 & 1:25000). These maps are suitable in the majority of cases to position survey blocks in relation to identifiable features on these maps and subsequently establish the state coordinate values for the survey block. Granted the scaling accuracy from the topographic maps will vary from 10 to 30 meters but this is considered acceptable for the establishment of an initial geographically referenced graphic cadastre. Individual digital parcel map files can be easily integrated with this technique and later transformed to a more modern datum and referencing system through a simple and rapid coordinate translation process. Later when the cost can be justified rapid GPS techniques can be applied to establish more precise coordinate values on individual survey blocks.



Where possible low-cost orthophoto maps can be used to supplement field surveys and to geographically position surveys. If only aerial photography is available then survey blocks can be located in relation to photo identifiable points in photographs and later, when ortho mapping is completed, coordinates can be derived for these photo points and subsequently UTM coordinates established for survey blocks. If digital orthophoto data is available parcel maps can be created in many cases by a combination of field measurements and rapid heads-up digitizing techniques from a low-cost computer work station.

## **6. Low -Tech Paper-Based System**

The Georgian State Department of Land Management is presently responsible for land registration and cadastre. This institution unfortunately is organizationally weak, under-funded, inexperienced, and inherently corrupt. In general this organization is not highly motivated to implement an efficient land registration and cadastre system at the present time. What drives this agency unfortunately is the illegal collection or extortion of funds from landowners for various land use and land transaction activities. What is needed is to bring institutional change and an attitude shift to this organization in order for them to operate an effective, public user-driven and transparent land registration and cadastre system.

Until institutional reform can be initiated successfully and a basic registration system is operating effectively the investment in high-tech solutions cannot be justified. In addition the present infrastructure (ie. power supply & communications) is not in place to support the operation and maintenance of high-tech systems.

A well organized paper-based system, supported by some computer tools, is sufficient to operate an effective registration system for Georgia. With proper document filing and indexing, simple and efficient registration procedures, and giving top priority to serving the public, all of the requirements of a basic system to support the land market can be satisfied at a very low cost.

If transactions can be processed rapidly and efficiently landowners will gain confidence in the system and subsequently land transaction activity will increase at an exponential rate thus stimulating rapid growth of land markets. With the collection of fair and reasonable transaction fees through transparent and accountable methods, registration offices can function on a self sustaining cost-recovery basis and all staff can be compensated appropriately ensuring higher morale and more likelihood of efficient service provision to landowners and the general public.

A paper-based system would mean using hard-copy registration cards, registration journals, conventional document filing systems, paper index maps, simplified forms for transactions, and other necessary indexing systems to file and retrieve documents necessary for efficient and transparent land transaction processing. The updating of records would be done by hand initially and later databases could be updated in a controlled and organized fashion when time permits. On a regular cycle registration index documents could be reprinted from updated database files but a paper-based system would remain in place until a business case can be made with cost-justification for implementing a more high-tech registration system.

### **Simplified Registration System and Procedures**

As mentioned previously the fundamental legal framework is now in place in Georgia to support the implementation and operation of a fundamentally sound land registration system and cadastre. What is necessary however is the establishment of clear and simple registration regulations and procedures for the efficient operation of the system in conformance with current law.

The information content in for Registration Cards, Registration Certificates, and Registration Applications, and certain forms is standardized under the law. General provisions for the format and content of cadastral plans and cadastral index maps is established but more detailed and clear standards are necessary. More work is necessary to improve standard forms used for secondary transactions and registration office procedures and policies have yet to be established by SDLM.

The registration system and supporting procedures must be clear, simple and legally sound. The following is necessary to establish a cost-effective registration system for Rayon offices in Georgia:

- An approved list and simplified format of documents acceptable for registration
- Consistent and unique numbering and filing system for documents to be registered
- A procedure and journal for the entry of documents submitted for registration
- A procedure for making entries on Registration Cards and updating the supporting database
- A procedure for canceling old Registration Certificates and issuing new Registration Certificates
- Procedure for making changes to Cadastral Index Maps
- Procedures for making corrections to Registration Cards, etc.
- Transparent and accountable method for collecting and managing registration fees
- Procedures for resolving boundary disputes
- Procedures for resolving other ownership issues and problems
- An efficient communication mechanism to introduce new procedures and to exchange ideas between all registrars on system implementation and improvement

## **7. Ease of Upgrading to a Modern Integrated System**

When the basic registration system is operational and the transaction volumes justify upgrading of the system with more modern tools it will be necessary to migrate the existing data to a more integrated and automated system. Again arguments of cost-benefit must be satisfied before such system investments are made. In the interim however the data that is collected must be organized in such a way so as to allow for this migration to take place in a simple and low-cost manner.

Database file structures for Registration Card information must be compatible enough to allow their transformation into a new standardized DB structure for the upgraded registration system. This can be accomplished most effectively by using compatible table structures and field names amongst different agencies and Donor organizations in the initial database structure. In addition field formats should be standardized as well.

Parcel graphic files should be in a standard exchange format (eg. DXF) and be clean so that they may be later imported to a more integrated modern system. These DXF files or raw graphic files should be in the same coordinate system whether it be assumed (local ) or in an international or state system. It is preferable if graphic data coding system standards are applied but until technologies are standardized this will be difficult. Discussions should be initiated between Donors however to begin the process of data standardization and to settle on data exchange formats. In that way various parcel graphic files can be transformed easily into the final software environment and geographic reference system for eventual system integration.

Initially it is acceptable to use existing maps to scale approximate state coordinates for survey blocks as described in 5 above. This will allow the initial integration of isolated survey areas into one uniform spatial reference system and render the graphic data ready for easy transformation into the final geographic map projection system (eg. UTM).

Procedures for updating of digital DB files and graphic files must be put in place so that proper data management is followed. Digital data that is not maintained current is of little value.

## **8. User-Driven Institutional Reform**

As previously stated the SDLM is not presently capable of effectively implementing and maintaining even a simple efficient land registration system and cadastre. To believe that this agency can operate a high-tech system at this time is unreasonable. With the proper guidance and the appropriate institutional reform the SDLM can successfully operate a simple land registration system effectively within a short period of time. There are certain organizational and operational changes that must take place before this can happen:

- Clear policy, guidelines, and procedures must be established centrally and provided to Rayon offices of SDLM
- Centralized control and decision making must give way to autonomous Rayon operations that can make management and operational decisions quickly using the guidance of central policy and procedures
- Rayon Registry offices must become responsive to the public need for land transaction services
- Old bureaucratic and hierarchical institutional means of operating must give way to empowered local decentralized work environments that can make decisions quickly without fear of repercussions from central SDLM and with clear-cut responsibilities
- The focus of registration office operations must be client driven since the idea would be to have the registration offices operate in a self- funding cost-recovery mode through the collection of published fees
- The rule-driven approach to operation must be changed to a customer-driven approach that places service to the public as paramount
- Central control by SDLM should be transformed into central support of Rayon Registration Offices
- Transparent and accountable practices must be applied with the operation of the Registration Offices to ensure the proper fees are charged to the public and that the fees collected are directed to the operation of the office

- Consideration should be given to implementing employee incentive plans where increased services (higher revenues) can be distributed to staff of the Registration Office
- Staff should be encouraged to make decisions and to feedback suggestions to management for improved operations

Until the necessary organizational and institutional reform as described above takes place the operation of successful registration offices will be next to impossible.

## **9. Standards, Regulations & Policies**

Regulations and standards for both land registration and cadastre are yet to be developed for Georgia. Up to this point various Donor Agencies conducting cadastral and land registration activities have developed functional specifications that satisfy the general body of law that pertains land registration which is primarily; the law “On Land Registration,” the Order of the State Department of Land Management No. 2-48 November 1, 1998 “On Establishing Land (Immovable Property) State Registration Agencies and Approving Public Registry (Estate Book) Maintenance Logs,” Presidential Order No. 327, May 16, 1999 “On Urgent Measures for the Initial Registration of Agricultural Land Ownership Rights and Issuance of Registration Certificates to Citizens of Georgia”, Order 2-20 of March 24, 1999 and other related normative acts.

Although the fundamental legal provisions are included in these laws the specific technical and legal procedure has not been sufficiently elaborated in regulations and standards. This is necessary to maintain a sound and effective operational land registration and cadastral system. These regulations and standards and accompanying policies do not have to be complex but must address the following;

### **Registration Procedures**

- Office filing system procedures (Registration Cards, Applications, Index Maps, Registered documents, Registration Journals, field journals, etc.)
- Numbering and filing of documents to be registered
- Controlling of parcel numbers
- Entries in Registration Card for owner, obligations, mortgages, etc.
- Examination and acceptance of documents submitted for registration
- Types of documents acceptable for registration and their formats
- Corrections to Registration Card
- Searches of Registry and requests for copies or extracts
- Changes to Cadastral Index Maps
- Canceling Registration Certificates on land transfer and issuing a new Registration Certificate to new owner
- Procedure for parcel consolidation
- Procedure for parcel severance
- Tariff of fees for registration office services

## Regulations – Specifications for Surveys

Minimum survey standards and specifications are necessary for the implementation of a low-cost land registration system and cadastre. These standards-regulations should include:

- Definition of Terms
- Authority for the management of surveys
- Responsible custodian of records and how are they to be maintained
- Who is responsible for making standards and what is the process
- Duties and powers of surveyors
- Survey Methods
- Format and content of field journals
- Standards of measure and calibration of equipment
- Accuracy requirements for surveys
- Determination of direction
- Establishment of geographic coordinates
- Numbering of parcels
- Definition of types of lands to be surveyed
- When surveys can be undertaken
- Who can conduct surveys
- Markers to be used to define parcel boundaries
- Content of cadastral plans
- Certification of plans by surveyor
- Correction of plans
- Correction of surveys
- Definition of boundaries
- Definition of roads
- Boundary dispute resolution process
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## Regulations- Specifications for Mapping

For the production of the basic Cadastral Index Maps minimum standards-specifications must be established to ensure the collection of the necessary data and the proper format of the Cadastral Index Map. These standards-specifications should include:

- Format and contents of Cadastral Index Maps
- Geographical referencing system
- General Sakrebulo index map sheets preparation, format and contents
- For digital files
  - Data exchange format
  - Coordinate system
  - Data classification
  - Data structure
  - Text formats and characteristics
  - Line type coding
  - Digitizing requirements
  - Basic Data Dictionary
- Use of aerial photos and orthophotomaps
- Use of existing topographic maps

### **Summary:**

The question is not whether Georgia needs a land registration system – legal cadastre. The key issues are the nature of the system to be implemented and the methods used to put a system in place giving full considering to the cost justifications and the current institutional environment in the country. These issues must be honestly assessed and fully considered to ensure the rapid creation of a viable land market for without a healthy land market any system that is implemented will be rendered inutile.

Lessons learned in other developing countries concerning the application of modern technologies to the implementation of land registration and cadastre raise many questions. The right balance must be achieved between technology and proven fundamentals when deciding on the proper system solution for Georgia. More importantly perhaps are the institutional changes that must be effectively introduced to ready the State Department of Land Management for the efficient operation of the system. The most modern system will fail without an efficient and responsible agency maintaining it.

Funding, personnel skills, infrastructure, attitudes, transparency, and management are all deficient at the present time in the Sate Department of Land Management. These factors are the most obvious arguments supporting the implementation of a simple, conventional, low-cost, paper-based land registration system and cadastre in the early stages of land market formation in Georgia. Certainly some technologies should be applied but only to reduce the time and cost of data capture and document production. The digital data produced should of course be in a format that will allow relative ease of migration to a more modern system at the appropriate time and the data should be maintained current.

Procedures, standards and systems should be simple, clear and efficient to shorten learning curves and to allow the involvement of as many local specialists and personnel as possible. Economy of scale is not an important factor in Georgia due to low labor costs and low overhead costs so simple systems can be decentralized as much as possible.

With a small injection of financial aid and the correct advice from foreign specialists Georgia can have an effective and efficient functioning land registration and cadastre that can properly serve its landowners and the State and above all support the low-cost rapid creation of the land market in the country.